

New descriptions and redescriptions of *Cerceris* species inhabiting southern Africa (Hymenoptera: Sphecidae).

by

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The following species and subspecies of *Cerceris* Latreille, 1802 are figured and described or redescribed: *C. bannisteri* spec. nov.; *C. herbsti* spec. nov.; *C. vulpecula vulpecula* spec. et subspec. nov.; *C. v. fuscicauda* subspec. nov.; *C. rhodesiensis* spec. nov.; *C. mutabilis* Arnold, 1931, with description of hitherto undescribed female; *C. eulalia eulalia* Brauns, 1926, stat. nov., with description of hitherto undescribed male; *C. e. transkeica* subspec. nov.; *C. holconota holconota* Cameron, 1905, stat. nov.; *C. h. labiosa* subspec. nov.; *C. h. oculata* subspec. nov.

Subfamily PHILANTHNAE

TRIBE CERCERINI

Genus *CERCERIS* Latreille

Cerceris Latreille, 1802: 367; Empey, 1969: 298

Cerceris bannisteri spec. nov., figs. 1-5; Map A

FEMALE. 10 mm long. Black, the following parts yellow: basal halves of mandibles; clypeus except apical margin of medioclypeal area, tentorial pits and apex to clypeal process; frons to a little beyond antennal insertion level; a macula on each upper gena; pronotal collar; scutellum; metanotum; small maculae, one each side, on scutum, near tegulae; tegulae anteriorly; hypopimeral area anteriorly; posterior half of petiole; second to fifth tergites except the triangular basal margin and medio-apical macula on second tergite, mediolongitudinal maculae on third to fifth tergites—the fourth tergital macula being bolder, a mediobasal macula on the fifth, and thin basal margins of all these tergites, these exceptions being black; all sternites except black basal margins; legs except inner surfaces of posterior femora, which are orange-yellow; scapes. Posterior halves of tegulae orange-yellow; flagelli ferruginous, darkening distally. Pygidium and apical margin of fifth tergite ferruginous. Wings pale fuscous, forewings distally darker; pterostigmae orange, veins dark brown. Pilosity sericeous, very short and sparse; hypopygium fimbriate apically with longish bristly pencils, one each side, projecting posteriorly.

Mandibles bidentate on inner margins; anterior teeth obtuse, posterior ones acute. Medioclypeal area subhexagonal, a little longer than wide and slightly transversely concave apically, this margin protruding slightly beyond the lateroclypeal margins and

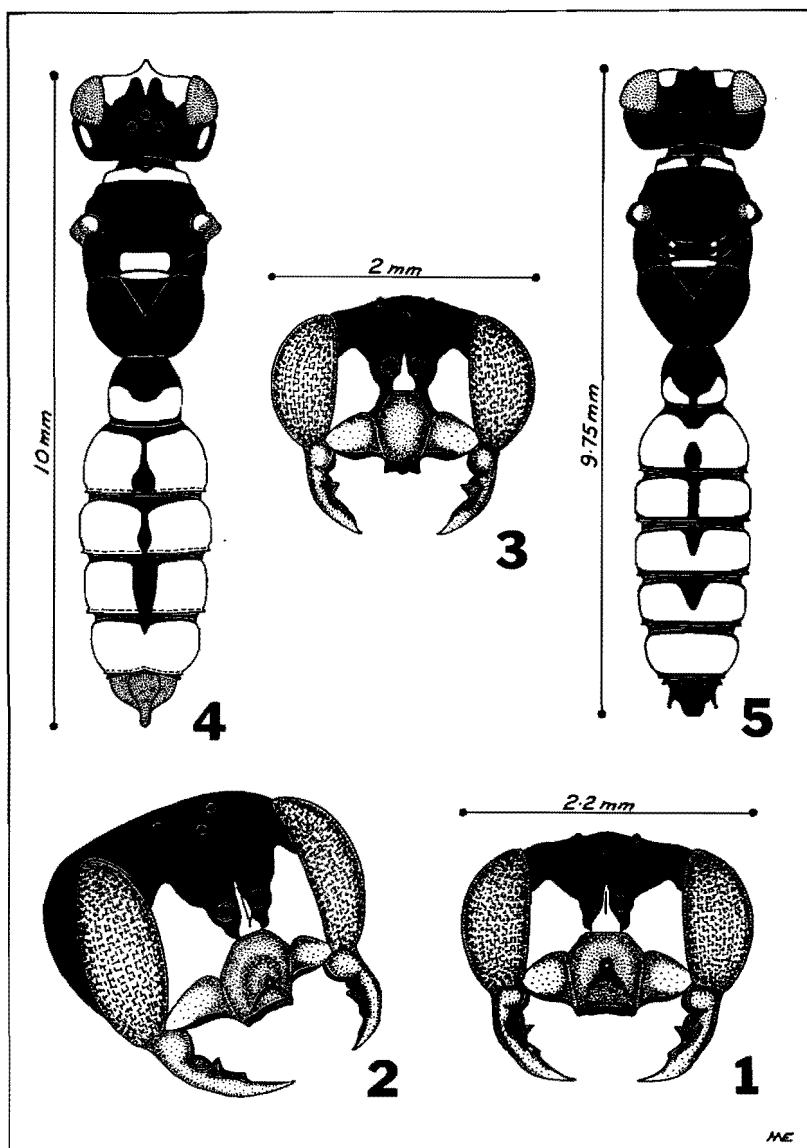
ending laterally in small tubercles. There is a subconical clypeal process, somewhat mammiform and pointed, situated in the middle of the medioclypeal area; anteriorly, the process face is somewhat concave, this concavity extending to the medioclypeal apex. Inner orbits slightly divergent towards mandibular base. Pronotal dorsum torulose, slightly depressed medially. Scutum depressed medially near anterior margin. Saeptum moderately obliquely costate, costae diverging caudad. Hypoepimeral areas produced into subtriangular crests, plainly visible from above. Mesopleuron armed with small acute tubercles, one each side. Superior metapleural areas obliquely striate, obliquely depressed medially. Petiole bell-shaped, one-fourth wider again than long, sides strongly convex, much narrower basally. Second tergite slightly longer, and about one-half wider again, than petiole. Pygidium twice as long as wide, widest basally; the basal sides are convex, and from there the sides narrow very rapidly distally, becoming subparallel just before the very narrow and rounded apex. Second sternite without medio-basal platform. Fifth sternite shallowly medially depressed. Posterior tibiae with five spiniferous serrations along each outer edge. Medio-apical margin of petiole impressed.

Puncturation of clypeus and frons shallow, fine, close and somewhat coriaceous posteriorly on frons. Vertex finely rugoso-punctate, but reticulate-punctate near orbital margins. Occiput and gena reticulate-punctate as vertex, these three areas being fundamentally microscopically punctulate, hence dull. Pronotal collar punctured as gena, but shallower. Puncturation of scutum, petiole and tergites 2-4 very much the same, and about twice as large as the punctures on lateral areas of vertex, but not so close, except the longitudinally elongated punctures on the anteromedian area of scutum, where there are also traces of the fundamental punctulation. Scutellum punctured as pronotal dorsum, but the punctures are placed further apart. Metanotum nitidulous, impunctate. Pronotum somewhat rugoso-punctate laterally. Propleuron finely coriaceous; mesopleuron reticulate-punctate as lower gena. Fifth tergite punctured as scutellum, but closer. Pygidium finely rugose. Sternites punctulate, punctures larger laterally.

Second and ultimate segments of flagellum of equal length, the latter with slight oblique truncation and pointed. Interocular distance on vertex about equal to combined length of first six, plus one-half of seventh flagellar segments. Saeptal base about one-half as wide as propodeal width; saeptal angle about 80°. Body slightly shining all over.

MALE. 10 mm long. In coloration very much the same as the female, except that, in the allotype, the yellow colour on the scutellum is limited to the lateral margins, and completely missing on some of the male paratypes. There is hardly any difference in puncturation between the sexes; even the costated saeptum is similar, with seven costae a side. Hypoepimeral areas similarly produced, but mesopleural tubercles are absent. Second sternite without mediobasal platform.

Mandibular and medioclypeal shapes unusual: mandibles falcate, unidentate on inner margins, these teeth acute and exceptionally large; medioclypeal area about one-half longer again than wide, narrowly produced somewhat subparallel distally, and apically truncate and medially unidentate, the margin projecting well beyond the anterior margins of lateroclypeal areas and laterally being acutely rectangular; the whole medioclypeal area is moderately convex, except for the slightly depressed antero-median area. The apical margin of medioclypeal area is black, as in the female, and the lateroclypeal margins are densely fimbriate with pale golden fimbriae. Pygidium subrectangular, one-half longer again than wide, sides very convex distally and apically truncate, with apex slightly narrower than base; pygidial surface closely, deeply and moderately punctured. Sixth sternite with small bunches of stiff bristles, one bunch each



Figs 1-5. *Cerceris bannisteri* spec. nov. 1, 2 - ♀ head; 3 - ♂ head; 4 - ♀ body; 5 - ♂ body.

side, directed caudad. Posterior tibiae with five feeble serrations along their outer edges. Petiole slightly wider than long, similarly shaped to female. Petiole proportions to second tergite as female. Interocular distance on vertex about equal to combined length

of first five, plus one-half of sixth segments of flagellum. Ultimate flagellar segment as long as second segment, slightly curved, and tapering distally to a truncated point.

Described from 1 ♀ and 10 ♂; ♀ holotype, ♂ allotype are in my collection; ♂ paratypes distributed between Herbst Collection; Transvaal Museum; Albany Museum; Rhodesia Museum; British Museum; U.S. National Museum; Musée R. de l'Afrique Centrale, Tervuren; National Insect Collection, Pretoria; South African Museum; Empey collection.

MATERIAL EXAMINED. SOUTH AFRICA, *Transvaal*: ♀ holotype, No. 12/1, Strubens Valley (Florida District), 25.i.1966 (H. N. Empey); ♂ allotype, No. 12/2, Strubens Valley (Florida Dist.), 27.xi.1965 (H. N. Empey); ♂ paratypes, Nos. 12/3, 12/5-8, 12/10-11, Strubens Valley (Florida Dist.), Nov.-Dec. (H. N. Empey); ♂ paratype, No. 12/9, Strubens Valley (Florida Dist.), 25.i.1967 (F. Herbst); ♂ paratype, No. 12/4, Hope (Ellisras District), 17.ii.1962 (H. N. Empey).

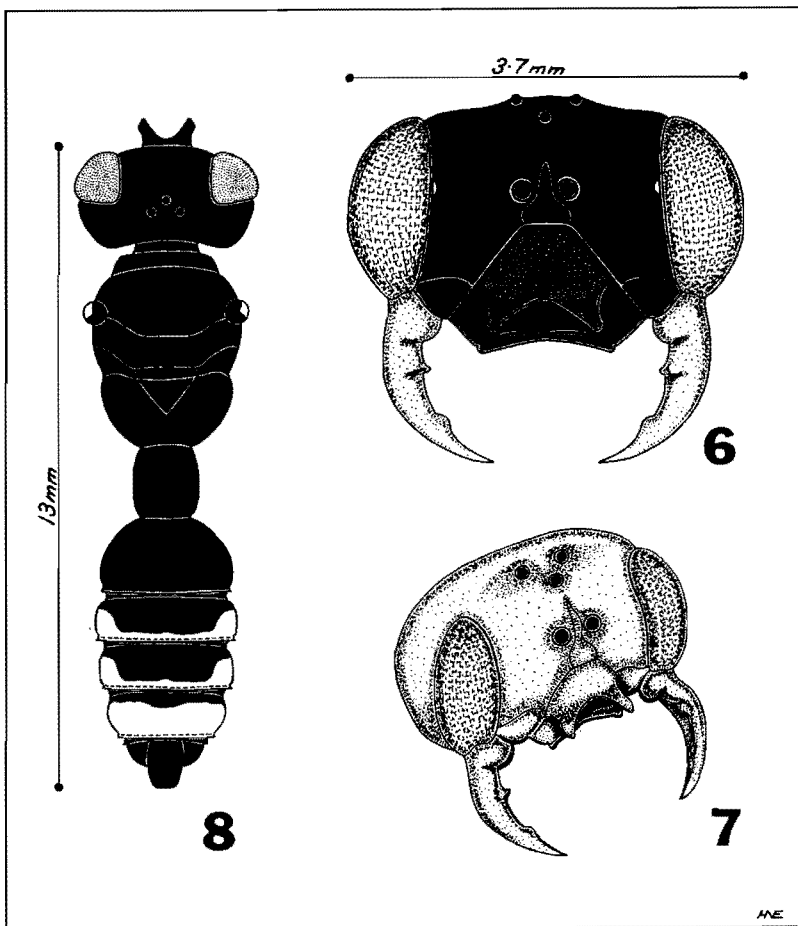
NOTES. I have much pleasure in naming this species after Mr Anthony Bannister, who has freely and generously helped me by superbly photographing the numerous *Cerceris* types examined by me in the initial stages of this work. Mr Bannister's keen interest in insect biology, his outstanding insect photography and his discoveries in hymenopterous hyperparasitism make it fitting that at least one hymenopterous species bear his name. It is worthy of record that he was present in the field with me when some of the initial type-specimens were captured, and remarked on their colourful beauty.

***Cerceris herbsti* spec. nov., figs. 6-8; Map A**

FEMALE. 13 mm long. Head totally black, exceptions being two small ivory-coloured maculae, one each side, on frons, near inner orbital margins and level with antennal insertion. Thorax black, exception being anterior halves of tegulae, which are ivory-coloured. Abdomen also black, the following exceptions ivory-coloured: apical bands, thin in middle and strongly dilated laterally, on third and fourth tergites; a broad apical band, almost covering entire segment, on fifth tergite. Mandibles ferruginous except inner dental margins and distal one-third, which are blackish. Scapes and basal halves of flagelli dark ferruginous; distal halves of flagelli and pedicels blend into blackish shades. Legs ferruginous except coxae, trochanters and streaks on outer serrated edges of posterior tibiae, these exceptions black. Wings fuscous throughout, forewings darkening distally; pterostigmae and veins dark brown. Pilosity silvery, dense and decumbent on propodeum and laterothoracic areas, shorter and somewhat fimbriant on apical margins of sternites, shorter and sparser elsewhere.

Mandibles falcate, bidentate on inner margins; anterior teeth very obtuse, posterior ones small and acute. Medioclypeal area subtriangular, one-fourth wider again than long, the mediofrontoclypeal suture short and almost equalling the oblique length of the latero-angled faces adjoining the medioclypeal apical margin, which is shallowly and transversely concave and ends in acutely angled somewhat turned-up lobes, thus making the lateroclypeal anterior margins narrow. In the middle of the medioclypeal area there are two cornute, porrect and flatly pointed projections, level with each other, projecting horizontally and strongly divergent when viewed from above; their projected length is about one-half of that of the medioclypeal area. There

is also a low transverse carina, flatly interrupted medially, as wide as the cornute clypeal processes above it and situated midway between the apical margin of medioclypeal area and the anterior base of the projecting processes, the area here being somewhat concave, whereas the basal half of the medioclypeal area above the clypeal projecting processes is moderately convex. Pronotal collar short; scapulae subprotuberant. Saeptum shining, with a deep mediolongitudinal crenulated groove and oblique striae along lateral sutural margins. Petiole slightly longer than wide, sides slightly convex. Second tergite nearly twice as wide, and as long, as petiole, subsemicircularly shaped. Pygidium about two-thirds longer again than wide, sides slightly convex, wider basally than apically, and apically truncated. Hypopygium with deep medio-apical excision. Posterior tibiae with seven small spiniferous serrations along each outer edge. Second sternite without mediobasal platform.



Figs 6-8. *Cerceris herbsti* spec. nov. ♀. 6, 7 - head; 8 - body.

Frons and clypeus with fundamental microscopic punctulation, on which is superimposed fine puncturation on clypeus and rugoso-puncturation on frons; this rugoso-punctate superimposition extends from the frons over the vertex and changes into fine reticulate-puncturation on the occipital areas and genae. Thorax punctured as occiput, except mediobasal areas of scutum, which have somewhat longitudinally elongated reticulate-puncturation, much coarser than that on occiput. Superior metapleural areas rugoso-striate. Metanotum very finely and sparsely punctured. Petiole, second and third tergite punctured as thorax, but not as close; fourth tergite with similar puncturation, slightly shallower, punctures placed further apart; fifth tergite with still finer, much shallower and scattered puncturation, similar to that of metanotum. Pygidium evenly and finely coriaceous, coriaceousness tending to become finely rugoso-striate distally. Second sternite shining, finely and interspersedly punctured all over; other sternites slightly shining, with much finer and sparser puncturation. Head and thorax, except saeptum, are dull.

Inner orbits slightly divergent towards mandibular base. Interocular distance on vertex almost equal to combined length of first eight segments of flagellum. Second flagellar segment nearly one-fourth longer again than third segment; third segment as long as ultimate segment, the latter being slightly curved with apex roundly pointed.

This species may be distinguished by its unusually formed female clypeal processes; however, it superficially resembles *Cerceris mutabilis* Arnold, 1931, a South African insect, in size and by the coloration of the abdominal complex. The male, when discovered, most probably will have similar dorsal coloration, but may have an ivory-coloured clypeus and frons, this difference being usual in sexes of this genus.

MATERIAL EXAMINED. ♀ Holotype. SOUTH WEST AFRICA: Windhoek, 5.iii.1966 (F. Herbst). The holotype, No. 77/1, is in my collection, having been kindly donated by the collector. The male is unknown.

NOTES. I have much pleasure in naming this species after Mr Frederick Herbst, the collector and a personal friend of mine. Mr Herbst is a private collector of Hymenoptera, mainly Aculeata, with a keen interest in the biology of Pompilidae in general.

***Cerceris vulpecula vulpecula* spec. et subspec. nov., figs. 9–13; Map B**

FEMALE. 13 mm long. Black, the following parts yellow: basal two-thirds of mandibles; clypeus; frons up to posterior level of interantennal carina; interantennal carina; scapes; a thin crescented macula, broken medially, behind ocelli; genae and occiput laterally; neck anteriorly; propleuron; pronotum laterally; pronotal lobes; pronotal collar; tegulae; hypoepipimeral areas; mesopleuron, in greater part; propodeal spiracles; two short thin parallel longitudinal lines on posterior half of scutum, not reaching posterior margin and spaced at about one-third of segmental width apart; propodeum except propodeal declivity and lateral margins; wide lateroparallel maculae, one each side, on petiole; large mediobasal portion of second tergite, balance brownish-yellow, except a mottled medio-apical macula, which is predominantly black; legs, in greater part, exceptions being tibiae and tarsi, which are tinged with ferruginous; second sternite except lateral areas and a thin mediolongitudinal line, these exceptions being dark ferruginous; lateral maculae on third and fourth sternites. Tergites 3–5

brownish-yellow. Pygidium and hypopygium dark ferruginous; flagelli pale ferruginous. Wings slightly fuscous, forewings distally darker; pterostigmae orange-brown, veins brown. Pilosity golden, short, but longer on fourth and fifth sternites; very short and sparse on frons and clypeus.

Mandibles robust, apically acute and unidentate in middle of inner margins, these teeth obtuse and slightly raised dorsally. Medioclypeal area subpentagonal, one-fourth wider again than long; apically the margin is transverse and is practically fused and level with the truncated anterior side of a subsemiconical vulpine clypeal process projection. Inner orbits strongly divergent towards mandibular base. Pronotal dorsum torulose. Hypoepimeral areas swollen, plainly visible from above. Mesopleuron swollen, tuberculose, tubercles somewhat mammiform and one each side. Scutum and scutellum convex; metanotum boldly gibbose. Petiole as long as wide, sides weakly convex, slightly narrower basad. Second tergite two-thirds wider again than, and as long as, petiole. Pygidium linguiform, two and one-fourth times longer than wide, sides slightly convex, apically rounded and distinctly narrower distally than basally. Second sternite without mediobasal platform. Posterior tibiae with six coarse spiniferous serrations along each outer edge. Second segment of flagellum about one-third longer again than third segment; ultimate and third flagellar segments of equal length, the former slightly curved and obtusely pointed. Anterior coxae strongly produced laterally and somewhat pointed. Interocular distance on vertex about equal to combined length of first six, plus one-half of seventh flagellar segments. Interantennal carina moderately acute. Hypopygium bispinose.

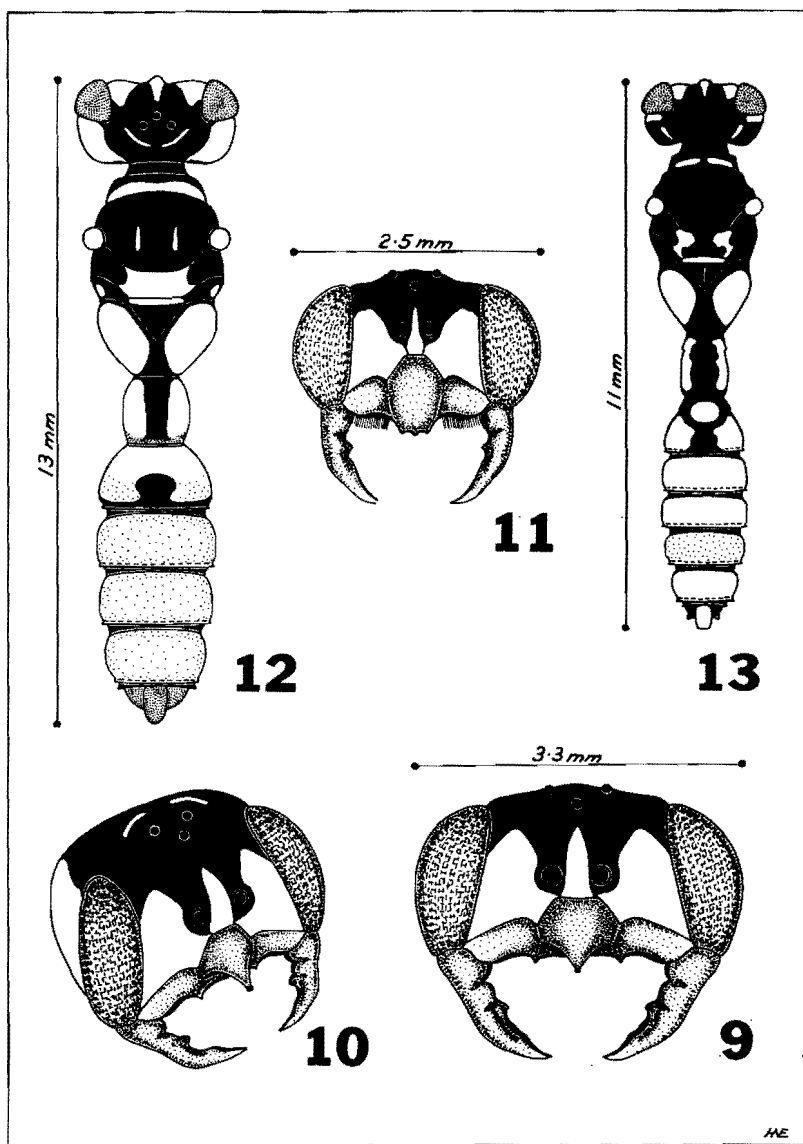
Frons and clypeus finely coriaceous. Vertex and ocellar area finely reticulate-punctate; puncturation of occiput and genae similar, but much shallower. Pronotal dorsum punctured as genae. Scutum with punctures the size of those on vertex, punctures somewhat longitudinally striato-punctate. Scutellum finely rugoso-punctate. Metanotum finely coriaceous, finer than that on frons. Saeptum mediolongitudinally grooved, sharply obliquely striate, transversely so distally. Propodeum striato-rugose. Superior metapleural areas striate above, finely coriaceous below. Petiole and second tergite closely, deeply and coarsely punctured, punctures at least twice the size of those on vertex; punctures on third tergite similar but shallower; those on fourth tergite slightly smaller and shallower, while the punctures on fifth tergite are much finer, shallower and placed much further apart. Pygidium finely rugose, finely rugoso-punctate basally. Second sternite shining, with interspersed shallow and coarse puncturation; other sternites with finer interspersed puncturation, punctures becoming coarser laterally. Body surface slightly shiny; in contrast, saeptum much shinier than rest of thorax.

MALE. 11 mm long. Coloration similar to female, except that the yellow colour on scutellum is confined to lateral maculae and the tergites are inclined to have the same rich yellow colour as thorax; however, in some of the paratypes there are traces of brownish-yellow, and in the allotype the fifth tergite is quite dark. In the female the genae are completely yellow, whereas in the males the yellow coloration on the head is confined to the posterior orbital margins, continuing from there horizontally and posteriorly on the upper genae, level with the pronotal scapulae, but not quite reaching the occipital areas. Tergites 3-6 generally completely yellow. Pygidium yellow, with traces of ferruginous.

Puncturation very much the same as female, except frons and clypeus, which are finely closely punctured, and the puncturation of the tergites, which is slightly coarser and deeper, with the same proportionate reduction in size and depth of the

punctures on the last two tergites. Pygidium rugose, with some small and interspersed punctures between the rugae, the condition somewhat rugoso-punctate.

Mesopleuron unarmed. Second sternite without mediobasal platform. Hypo-



Figs 9-13. *Cercheris vulpecula vulpecula* subspec. nov. 9, 10 - ♀ head; 11 - ♂ head; 12 - ♀ body; 13 - ♂ body.

epimeral areas of mesopleuron not as swollen as female. Medioclypeal area convex, subovoid, one-half longer again than wide, feebly tridentate apically. Petiole one-half longer again than wide, sides slightly convex. Second tergite a little shorter, and a little more than one-half wider again, than petiole. Pygidium subrectangular, two-thirds longer again than wide, sides very weakly convex, apically truncate and slightly narrower here than at the base. Posterior tibiae with six feeble serrations along each outer edge. Inner orbits slightly divergent towards mandibular base. Interocular distance on vertex equals combined length of first five segments of flagellum. Second flagellar segment slightly longer than third segment; ultimate segment subparallel, slightly curved and obliquely truncate apically. Mandibles falcate, triangularly unidentate in middle of inner margins. Hypopygium produced laterally into two subtriangular processes, projecting caudad. Frons and clypeus slightly shining. Lateroclypeal anterior margins with dense golden fimbriae.

Described from 1 ♀ and 4 ♂♂. ♀ holotype and ♂ allotype are in the South African Museum, Cape Town; ♂ paratypes are in the South African Museum, Herbst collection and Empey collection.

MATERIAL EXAMINED. SOUTH WEST AFRICA: ♀ holotype, No. 35/1, Kamanjab, March 1925 (S.A. Mus. Exped.); ♂ allotype, No. 35/2, Kamanjab, March 1925 (S.A. Mus. Exped.); ♂ paratype, No. 35/3, Windhoek, 7.iii.1966 (F. Herbst); ♂ paratype, No. 35/4, Windhoek (H. N. Empey); ♂ paratype, No. 35/5, Kaoko Otavi, March 1925 (S.A. Mus. Exped.).

***Cerceris vulpecula fuscicauda* subspec. nov.; Map B**

MALE. 11 mm long. Coloured as the nominal subspecific males except that the last three tergites and sternites, as well as the hypopygium and pygidium, are very dark brown mottled with black. The fimbriae on the anterior margins of the lateroclypeal areas are ferruginous, instead of being golden coloured as in the males of the nominal subspecies.

The punctures on the fifth tergite are almost as large and as deep as those on the antecedent tergites, and the punctures on the sixth tergite are close, deep, and about one-half the size of those on the first two tergites; whereas the punctures on the sixth tergite of the nominal subspecific males (described above) are small, shallow and interspersed about one-fifth the size of those on the second tergite. Pygidium coarsely rugoso-punctate, the punctures between the rugae about the size of those on the sixth tergite, this pygidial condition being much coarser than that of the nominal subspecific males. Petiole about one-half longer again than wide, subrectangular. Otherwise like males of the nominal subspecies.

MATERIAL EXAMINED. ♂ holotype. SOUTH AFRICA, *Northern Cape Province*: Upington, 10.ii.1960 (H. N. Empey). Holotype, No. 78/1, is in my collection. Female unknown.

***Cerceris rhodesiensis* spec. nov., figs. 14–18; Map B**

Arnold described the female of this species from a single specimen taken with numerous males, which he considered were males and the missing female of *Cerceris*

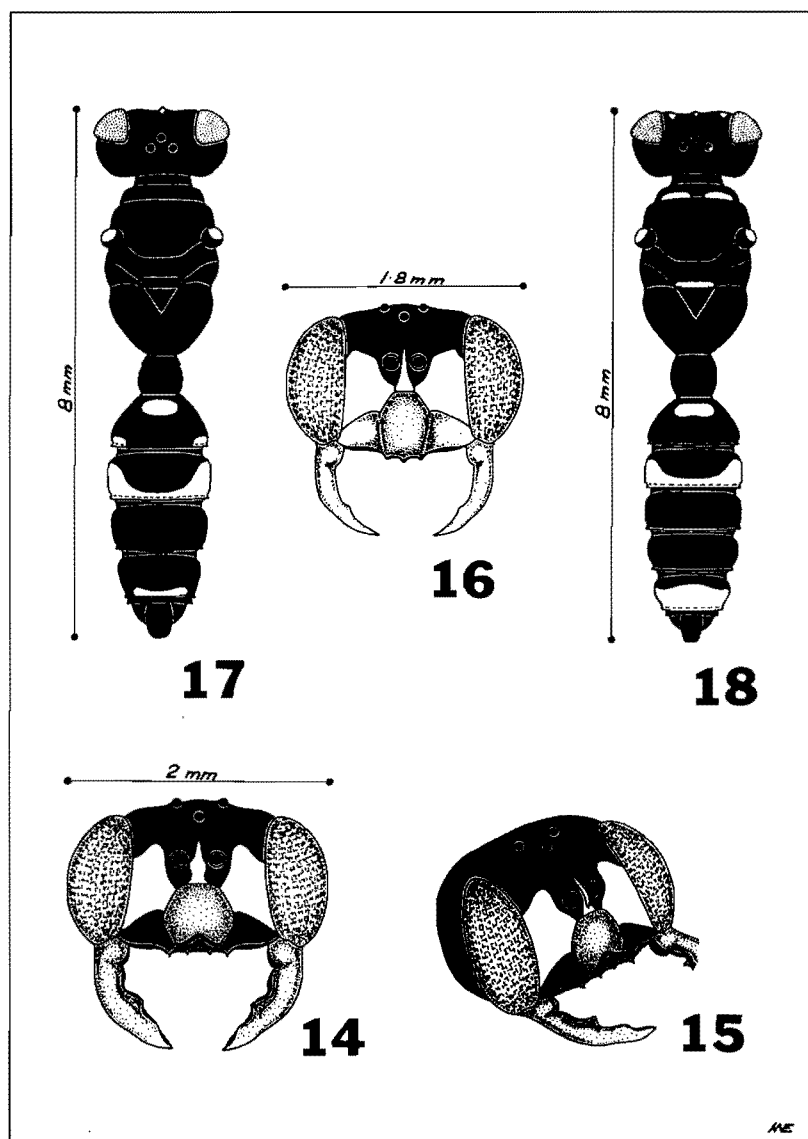
heterospila heterospila Cameron, 1910; he was mistaken, for, although these males resemble the males of *C. h. heterospila*, they definitely constitute a distinctly different species, closely related to *Cerceris mazimba* Brauns, 1926, *Cerceris heterospila heterospila* Cameron, 1910, *Cerceris hamiltoni* Arnold, 1931 and *Cerceris bifurcata* Empey, 1970. A description of *C. rhodesiensis* follows.

FEMALE. 8 mm long. Black, the following parts lemon-yellow: clypeus except medioclypeal apical margin and lateroclypeal areas; laterofrontal areas to a little beyond antennal insertion level; frontal disc; interantennal carina; tegulae anteriorly; an oval mediobasal macula and latero-apical maculae on second tergite; an apical band, thin in middle and strongly dilated laterally, on third tergite; a bold apical band, not quite reaching sides, on fifth tergite. Mandibles yellowish basally, blending into ferruginous distally and darkening apically. Scapes black; flagelli ferruginous except penultimate and three preceding segments, which are blackish. Femora, trochanters and coxae black; middle and anterior tibiae yellow, but posterior tibiae orange with blackish infuscation on their inner distal surfaces. Posterior basitarsi yellow, apices brown; remaining posterior tarsi brown. Wings subhyaline, forewings slightly fuscous distally; pterostigmae pale brown, veins brown. Pilosity silvery, short; sparse on tergites.

Mandibles falcate, unidenticulate in middle of their inner margins; apices angularly truncated, pointed on inner margins. Inner orbits subparallel. Second flagellar segment slightly longer than third segment; ultimate segment roundly pointed. Mesopleuron unarmed, normal. Petiole as long as wide, widest medially, sides slightly convex and slightly narrower basally. Pygidium narrowly subelliptical, twice as long as wide, sides slightly convex, apex feebly convex with rounded corners. Second sternite without mediobasal platform. Posterior tibiae with five spiniferous serrations along each outer edge. Medioclypeal area subhexagonal, convex and apically truncate; there is slightly detached clypeal process, situated anteriorly, having a shallow emarginate free edge protruding slightly above the true medioclypeal anterior margin; the free edge of the clypeal process is excised with an included angle of about 135° and has slightly rounded lateral corners. The clypeal process free edge and the apical margin of the medioclypeal area are black. Interocular distance on vertex almost equals combined length of first six segments of flagellum. Head slightly wider than thorax.

Frons and clypeus finely and shallowly punctured. Vertex, occiput and genae finely, closely and deeply punctured. Scutum punctured as vertex, but puncturation larger; puncturation of scutellum similar, but shallower and sparser. Metanotum moderately shining, impunctate. Saeptum moderately shining, with shallow and wide mediolongitudinal groove; basal corners coarsely and obliquely striato-rugose. Puncturation of petiole as occiput, but shallower; puncturation of second and third tergites similar, but shallower than that of scutum; fourth tergite similarly punctured, punctures much shallower and smaller; fifth tergite with very fine, sparse and very shallow puncturation. Pygidium finely coriaceous, basally rugose. Second sternite nitidulous with some large lateral punctures; other sternites impunctate, shining, except fifth sternite, which has fine, sparse and shallow puncturation. Mesopleural areas punctured as scutum; superior metapleural areas rugose.

MALE. 8 mm long. The coloration is very much like that of the female, except that the pronotal scapulae and metanotum are lemon-yellow and the lateral markings on the second tergite are lacking; the fifth tergite is immaculate, and the sixth tergite is boldly banded with yellow. The coloration of the clypeus and frons is as in the female;



Figs 14–18. *Cerceris rhodesiensis* spec. nov. 14, 15 – ♀ head; 16 – ♂ head; 17 – ♀ body; 18 – ♂ body.

the legs are similarly coloured, except the posterior tibiae, which have the spiniferous margins tinged with yellow. Third sternite with yellow lateral maculae, one a side. Wings and pilosity as female.

Medioclypeal area convex, one-half longer again than wide, apically tridenticular, denticles positioned arcuately. Inner orbits subparallel. Petiole subglobular, very slightly longer than wide. Second tergite slightly longer than petiole and fully twice as wide. Interocular distance on vertex equal to combined length of first six, plus one-half of seventh segment of flagellum. Second flagellar segment about one-third longer again than third segment; ultimate segment obliquely truncated distally and apically pointed. Posterior tibiae with five spiniferous serrations along each outer edge. Pygidium ovate, one and two-thirds longer again than wide, apically truncate with corners slightly rounded.

Puncturation similar to female, but punctures slightly deeper on frons, clypeus and tergites. Pygidium slightly shining, with moderate and deep punctures interspersed over entire surface. Sternites impunctate; sixth sternite has subtriangular tubercles, one each side, on apical margin, clearly visible from behind. Saeptum sculptured as female, but striation in basal angles not as bold. Mandibles similar to female, including angular truncation of apex, but have a slight swelling instead of a denticle on inner margins, nearer apices. Otherwise like female in sculpture and structure.

Described from 1 ♀, 6 ♂, Rhodesia. ♀ holotype and ♂ allotype are in the Rhodesia Museum, Bulawayo; ♂ paratypes are in the Rhodesia Museum and my collection.

MATERIAL EXAMINED. RHODESIA: ♀ holotype, No. 1/1, Matetsi, 18.i.1935 (Rhod. Museum); ♂ allotype, No. 1/2, Bulawayo, 10.xi.1924 (R. H. R. Stevenson); ♂ paratype, No. 1/3, Bulawayo, 27.ii.1923 (R. Stevenson); ♂ paratype, No. 1/4, Bulawayo, 1.xi.1935 (R. H. R. Stevenson); ♂ paratypes, Nos. 1/5-6, Bulawayo, 28.xii.1959 (H. N. Empey); ♂ paratype, No. 1/7, Bulawayo, 28.xii.1940 (Nat. Mus. S. Rhod.).

NOTES. The female holotype of this species was selected and described by Arnold as his type female of *Cerceris heterospila* Cameron, 1905. Arnold's original red type label: "Type ♀ *Cerceris heterospila* Cameron" has been retained, and I have placed another type label above that of Arnold's, designating this specimen as the female holotype of *Cerceris rhodesiensis*.

Cerceris mutabilis Arnold, 1931, figs. 19-26; Map C

Cerceris mutabilis Arnold, 1931: 147, 157 (♂); 1942: Plate II, fig. 32 (♂); Empey, 1969: 315 (♂).

Cerceris empeyi Arnold, 1962: 848 (♂); Empey, 1969: 315.

FEMALE (hitherto undescribed). 12 mm long. Black, the following parts pale creamy-yellow: clypeus except black apical margin and a brownish macula, usually present in mediiodistal half of medioclypeal area; frons up to level of base of frontal disc; frontal disc; interantennal carina; apical bands, moderately dilated laterally, on third and fourth tergites, the band on fourth thinner; usually entire fifth tergite; sometimes a very thin apical band, often broken, on third sternite. Mandibles ferruginous, except distal one-third, which is blackish. Scapes and flagelli ferruginous, upper surfaces blackish in parts. All legs ferruginous, except black posterior coxae and brown posterior tarsal segments. Pilosity silvery, sparse, short dorsally and longer ventrally, decumbent on clypeus and frons, subdecumbent on fifth tergite; anterior margins of lateroclypeal areas and sides of pygidium somewhat fimbriant. There is considerable colour variation in the petiole, second tergite and pronotal dorsum; these segments may vary from black

to ferruginous, very rarely mottled or shades of these two colours, and in the majority of specimens examined the colour is predominantly black. The synonym, *Cerceris empeyi* Arnold, belongs to the red-petioled variety. Wings subhyaline, tinged with pale brown, forewings darker distally; veins and pterostigmae dark brown.

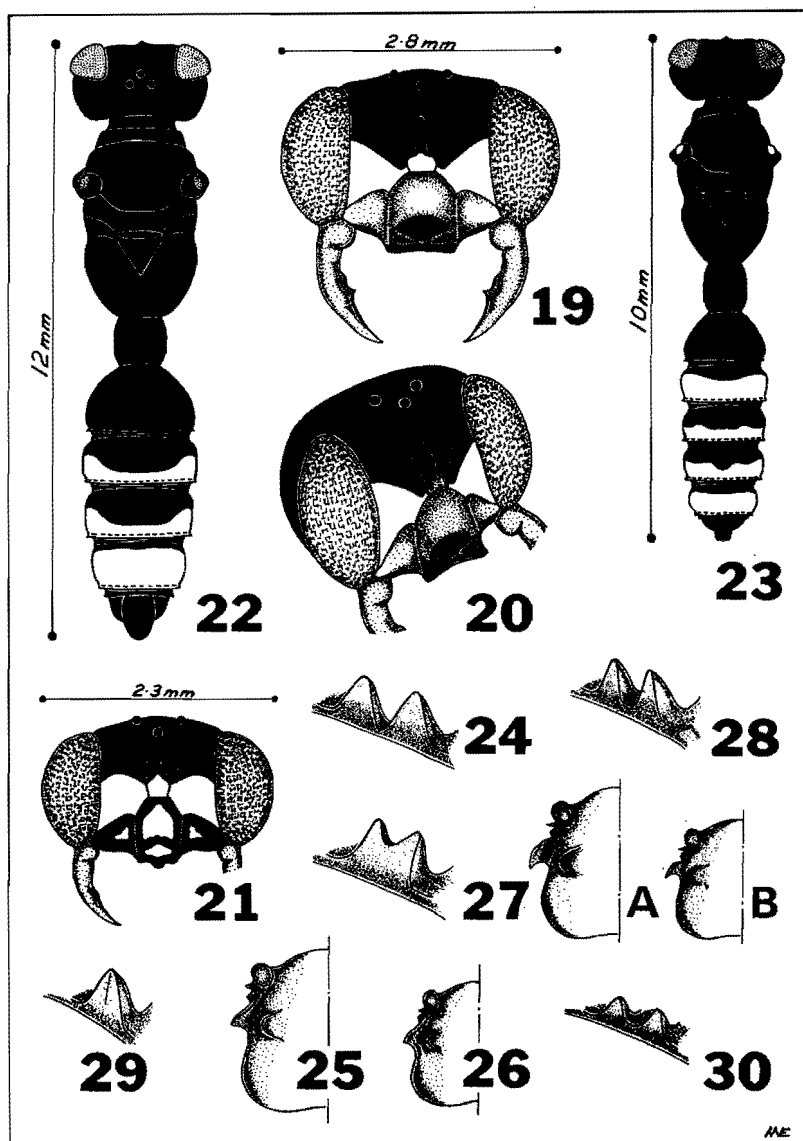
Frons and clypeus very finely and shallowly punctured, apparently fundamental punctulation; vertex and genae similarly punctured, but with stronger reticulate-puncturation. Scutum with superimposed large, not close and moderately deep puncturation, interstices at times equalling the size of the punctures; anteriorly, there is an acute mediolongitudinal impression; the surface is dull, due to the fundamental microscopic punctulation. Scutellum dull, fundamentally punctulate, superimposed with punctures similar, sparser and shallower than those of scutum. Metanotum slightly shining, almost impunctate, except for some widely interspersed minute punctures. Saepium smooth, slightly shining, with a mediolongitudinal crenulated groove and some fine interspersed punctures in basal corners. Tergites and propodeum moderately reticulate-punctate as vertex, except fifth tergite, which has slightly smaller and much shallower puncturation. Pygidium uniformly coriaceous, with a few interspersed small basal punctures. Second, third and fourth sternites shining, punctured laterally. The same microscopic fundamental punctulation appears on sternites, except fifth sternite.

Medioclypeal area very slightly longer than wide; apex transverse, very shallowly concave, and protrudes with somewhat acutely angled lateral corners beyond the lateroclypeal anterior margins; apically it is as wide as the distance between the tentorial pits. The surface of the medioclypeal area is reasonably flat posteriorly, but anteriorly is transversely flat and slight longitudinally concave, thus giving the apex a slightly turned-up appearance. Mandibles subfalcate, bidentate in middle of inner margins, the anterior denticle being bolder and acute. Inner orbits moderately divergent towards mandibular base. Interantennal carina very acute. Head, seen from front, is twice as wide as long, and much wider than thorax. Hypoepimeral areas of mesopleuron produced subhorizontally into subtriangular crests (fig. 25), plainly visible from above, similar to those of *Cerceris holconota* Cameron, 1905, but distinctly different from the crests of *Cerceris varicincta* Cameron, 1905 (fig. 27a-b), a related species, these crests of *varicincta* being hook-like in appearance and characteristic of this species. Petiole subglobular, as long as wide; second tergite about twice as wide as, and slightly shorter than, petiole. Pygidium broadly subelliptical, two-thirds longer again than wide, slightly wider basally than distally, and apically rounded. Second sternite with bold mediobasal platform. Posterior tibiae with eight spiniferous serrations along each outer edge. Second segment of flagellum slightly longer than third segment and as long as ultimate segment, which is roundly pointed. Interocular distance on vertex equal to a little more than combined length of first six flagellar segments.

In the middle of the tumid apical margin of the fifth sternite there are two distinct subtriangular spiniform processes, ventrally pointing and clearly separated (fig. 24), similar to that of the females of *Cerceris varicincta* Cameron, 1905 (fig. 27), *Cerceris nigrifrons nigrifrons* Smith, 1856, *Cerceris nigrifrons amaura* Kohl, 1891, *Cerceris polychroma* Gribodo, 1896 (fig. 28) and *Cerceris jackal* Brauns, 1926 (fig. 30). *Cerceris rufocincta* Gerstaecker, 1857 (fig. 29) is included in this species-group as well, for females of this species possess one fifth sternal denticle (or two very close, somewhat fused as one).

Described from 11 ♀, South Africa, Transvaal. ♀ metallotype and ♀ metaparatypes are in my collection. The male is redescribed below.

MALE. 8–11 mm long. In coloration very much the same as the female, with



Figs 19-26. *Cerceris mutabilis* Arnold. 19, 20 - ♀ head; 21 - ♂ head; 22 - ♀ body; 23 - ♂ body; 24 - ♀ fifth sternite; 25 - ♀ hypopimeral area; 26 - ♂ hypopimeral area.
 Figs 27, 27a-b. *Cerceris varicineta* Cameron. 27 - ♀ fifth sternite; 27a - ♀ hypopimeral area; 27b - ♂ hypopimeral area.
 Fig. 28. *Cerceris polychroma* Gribodo. ♀ fifth sternite.
 Fig. 29. *Cerceris rufocincta* Gerstaecker. ♀ fifth sternite.
 Fig. 30. *Cerceris jackal* Brauns. ♀ fifth sternite.

the same amount of variation of the petiole, second tergite and pronotal dorsum. There are, in varying degrees, creamy-yellow apical bands on the third to sixth tergites, more or less dilated laterally, the third band usually the boldest and sometimes the sixth tergite is entirely creamy-yellow. Metanotum often creamy-yellow as well as the scapulae of the pronotal dorsum. Wings slightly paler than female, veins and pterostigmae brown. Scapes and pedicels black; flagelli dark brown to blackish above, pale ferruginous beneath. Legs ferruginous except posterior coxae, trochanters and femora, which are black. Pilosity as female; lateroclypeal margins densely bordered with golden fimbriae.

Inner orbits subparallel. Mandibles subfalcate, edentate. Medioclypeal area oval, nearly twice as long as wide, surface flatly convex, and apically produced beyond lateroclypeal margins, with the medioclypeal anterior margin feebly tridentate, the median denticle being the largest. Hypoepimeral areas of mesopleuron produced as females, but not as bold, crests plainly visible from above. Saeptum smooth, slightly shining, with crenulated mediolongitudinal groove and striate basal corners. Petiole one-fifth longer again than wide, sides feebly convex, a little wider apically than basally. Second tergite nearly twice as wide, and as long, as petiole. Pygidium subquadrangular, slightly wider basally than distally and apically truncate; the surface is coarsely and closely punctured. Second sternite with mediobasal platform, but not as bold as female. Sixth sternite with lateral tubercular processes, one each side, projecting caudad. Punctuation similar to female. Posterior tibiae with six serrations along each outer edge. Interocular distance on vertex equal to length of first six segments of flagellum.

MATERIAL EXAMINED. SOUTH AFRICA, *Natal*: ♂ holotype, Van Reenen (R. E. Turner) (British Museum); numerous ♂ and ♀, Van Reenen, Mooi River, Lady-smith, Ingogo, Estcourt, Bergville (British Museum, Herbst and Empey collections); *Orange Free State*: numerous ♂ and ♀, Harrismith, Ficksburg, Marquard, Kroonstad, Parys (British Museum, Empey collection); *Transvaal*: numerous ♂ and ♀, Johannesburg, Strubens Valley (Florida District), Potchefstroom, Benoni, Vereeniging, Middelburg, Krugersdorp, Rustenburg, Rust de Winter, Pretoria, Warmbad, Magaliesburg, Swartruggens, Ventersdorp, Ermelo, Schoemansville, Randburg, Witbank, Bronkhorstspuit Dam (Transvaal Museum, Empey collection, Herbst collection); ♀ metallo-type, No. 10/1, Strubens Valley (Florida District), 27.xi.1965 (H. N. Empey); ♀ meta-paratypes, Nos. 10/2–10, Strubens Valley (Florida Dist.) (H. N. Empey); 1 ♀ meta-paratype, No. 10/11, Bapsfontein (Transvaal), 22.ii.1964 (H. N. Empey); LESOTHO, Mamathes: numerous ♂ and ♀ (C. Jacot-Guillarmod) (Albany Museum).

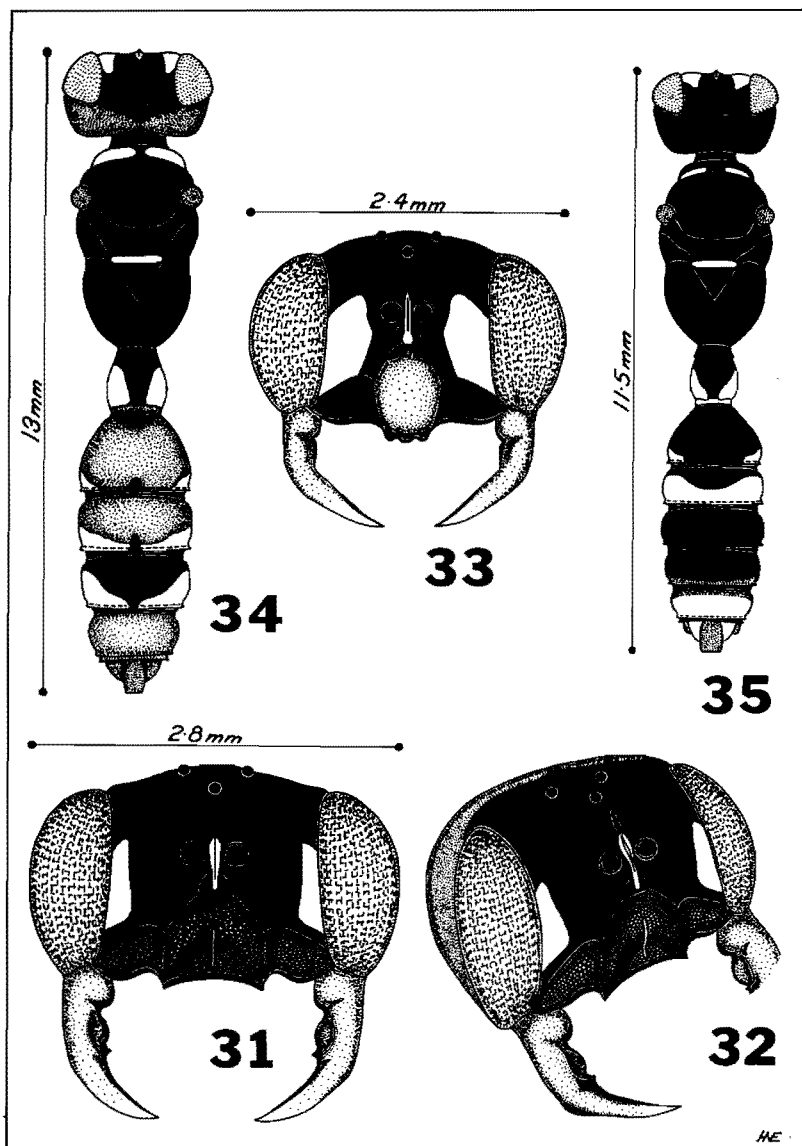
NOTES. This species is very common and has a fairly wide distribution throughout the Southern Transvaal, portions of the Orange Free State and Natal in South Africa; it is also found in abundance in some areas in Lesotho, and apparently prefers altitudes above 4 000 feet. Arnold's types series of the male come from Harrismith and Van Reenens Pass localities, the mountainous area bordering Natal and the Orange Free State. Male paratypes were never designated by Arnold from the males he described, and unfortunately there were no females among the *Cerceris* material collected by Turner from this area for the British Museum; however, even though Arnold had seen and determined many females of *mutabilis* since 1931, he overlooked the fact that the female was undescribed. Very little is known of the biology of this common species, and its prey still remains a mystery, even though other collectors and myself have actually taken hundreds of specimens in the field. Their prey most probably will be Curculionidae, Coleoptera; the species nests in hard soil, and is on the wing from October to March.

Cerceris eulalia eulalia Brauns, 1926 **stat. nov.**, figs. 31–35; Map D

Cerceris eulalia Brauns, 1926: 326 (♀); Arnold, 1931: 149; Empey, 1969: 307 (♀, ♂).

Cerceris rufiscutis eulalia Brauns, 1926; Arnold, 1931: 149; 1942: 15.

Cerceris rufiscutis armaticeps var. ***eulalia*** Brauns, 1926; Arnold, 1942: 15.



Figs 31–35. *Cerceris eulalia eulalia* Brauns. 31, 32 – ♀ head; 33 – ♂ head; 34 – ♀ body; 35 – ♂ body

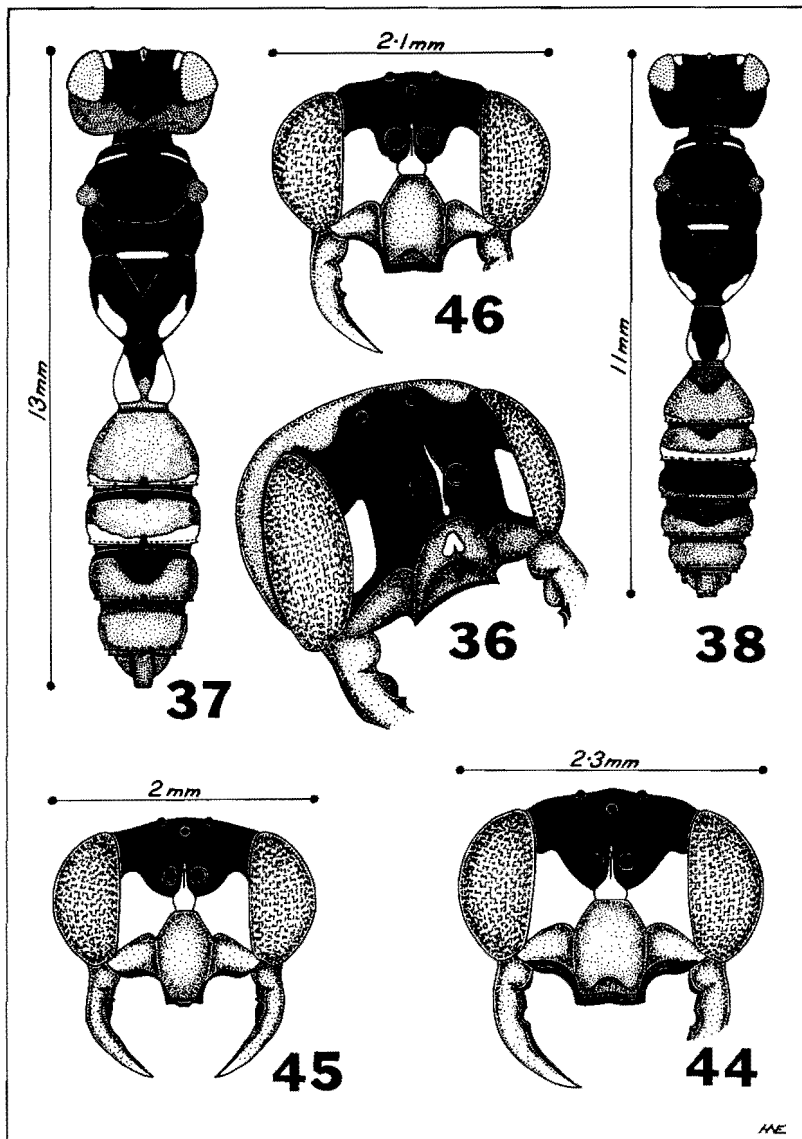
The female of this species was described by Brauns from a unique specimen collected by Mr G. Kobrow in Johannesburg some sixty years ago; I have collected numbers of both sexes of this species and have established its validity. The female holotype, in the Transvaal Museum, together with some female specimens in my private collection have been examined; a redescription follows.

FEMALE. 13–14 mm long. Head black, the following parts creamy-yellow: a small semi-lunar macula, sometimes absent, situated mediobasally on medioclypeal area; wide lateroparallel streaks, adjoining inner orbital margins and to a little beyond antennal insertion level, on frons. Thorax black, the following parts pale yellow: a thin posteromarginal band, broken medially, on pronotal collar; metanotum. The following parts ferruginous: tegulae; hind wing bases. Wings subhyaline, tinged with pale brown; pterostigmae and veins, in greater part, ferruginous. Petiole black, with full-length large lateral maculae, one each side, the maculae wider distally. Second, third and fifth tergites ferruginous, with lateral maculae and traces of an apical band on second tergite and a moderately sized apical band, strongly dilated laterally and broken medially, on third tergite, these bands and maculae pale yellow. Fourth tergite black, with a ferruginous apical band, very strongly dilated laterally. Pygidium and hypopygium ferruginous. Second and third sternites black, with large pale yellow lateral maculae, one each side. Fourth and fifth sternites ferruginous, the former with medial blackish infuscation. All legs ferruginous, except the coxae, which are black, and distal halves of posterior coxae, which are yellow. Scapes and flagelli ferruginous. Mandibles ferruginous, except inner dental margins and distal one-third, these exceptions black. Pilosity silvery, very short dorsally, including clypeus and frons, but much longer and erect on lateral areas of thorax and posterior margins of sternites; hypopygium with stiff pencils of bristles, one pencil each side, projecting posteriorly.

Dorsally the surface is dull, with fundamentally fine coriaceousness, and all other sculptured puncturation must be regarded as superimpositions. Medioclypeal area with small and interspersed punctures; rest of head finely reticulate-punctate, except lateroclypeal areas, which has only the fundamental coriaceousness. Scutum moderately and longitudinally striato-punctate; scutellum similar, but here it is somewhat rugoso-punctate. Metanotum impunctate, slightly shining. Saeptum coarsely obliquely striate, arcuately so basally. Propodeum moderately rugoso-punctate dorsally, reticulate-punctate laterally; puncturation of mesopleuron similar to that of lateral areas of propodeum. Petiole, second and third tergites coarsely, shallowly and not closely punctured; punctures on fourth tergite progressively smaller and shallower, punctures moderate in size and placed further apart; puncturation of fifth tergite very small, widely interspersed and very shallow, thus revealing the fine fundamental coriaceous dull surface. Pygidium coriaceous, distally rugose.

The lateral margins of the medioclypeal area are ill-defined, for the area appears to be fused to the lateroclypeal areas; however, the width between the tentorial pits should be taken as the medioclypeal width, and here the medioclypeal area is one-fourth wider again than long. The medioclypeal area is flat above the tentorial pit level, but shallowly concave below, this concavity extending to the apical margin, which is shallowly and transversely concave, protruding beyond lateroclypeal anterior margins, and ending laterally in acutely raised denticles on rectangular corners. There is a fine distinctly low and thin mediolongitudinal carina situated on anterior half of the medioclypeal area, and this carina extends from the apex to a point level with the tentorial pits. Mesopleuron with small, acute and somewhat mammiform tubercles, one each side.

Petiole as long as wide, sides moderately convex and tapering cephalad, widest at distal one-third. Second tergite as long as, and two-thirds wider again than, petiole. Medio-apical margins of petiole and tergites deeply subfoveately incised, the former with



Figs 36-38. *Cerceris eulalia transkeica* subsp. nov. 36 - ♀ head; 37 - ♀ body; 38 - ♂ body.
Figs 44-45. *Cerceris holconota labiosa* subsp. nov. 44 - ♀ head; 45 - ♀ head.
Fig. 46. *Cerceris holconota oculata* subsp. nov. ♀ head.

subtriangular emargination; all sternites similarly emarginated. Hypopygium deeply and roundly medio-apically emarginate. Pygidium elongate-oblong, sides slightly convex, two and one-third times longer than wide, apically truncate, and base and apex of equal width. Fifth sternite with apical margin deeply concave. Second sternite without mediobasal platform. Mandibles robust, bidentate on inner margins, the basal tooth roundly large, while the anterior denticle, situated medially, is raised, small and acute. Inner orbits moderately divergent towards mandibular base. Second flagellar segment one-half longer again than third segment; ultimate segment four-fifths as long as second segment and slightly curved and pointed. Posterior tibiae with six spiniferous serrations along each outer edge. Interocular distance on vertex about equals combined length of first six, plus one-half of seventh flagellar segments. Hypocpimeral areas of mesopleuron slightly swollen.

MALE (hitherto undescribed). 11.5 mm long. Very much like the female in coloration, except that the medioclypeal area in greater part and the maculae on the laterofrontal areas are boldly pale yellow; the yellow bands on the tergites are similar, but there are sometimes traces of yellow apical bands on the fourth and fifth tergites, and the sixth tergite is entirely yellow. The sternal maculae are as the female, but are richly yellow. The ferruginous colour on the second, third and other tergites of the female are replaced by black in the male, although there are sometimes traces of ferruginous on some of the tergites. Pygidium ferruginous, hypopygium yellow. Mandibles are as female in coloration, but the antennae darken distally on the upper surfaces of the flagelli. Pilosity as female. Genitalia ferruginous. Anterior margins of lateroclypeal areas golden fimbriated.

The puncturation is similar to that of the female, but is much coarser, the coarseness of the saepl striation remaining the same, and the pygidial surface in the males replaced by a surface finely and dispersedly punctured. Second sternite without mediobasal platform. Mandibles edentate, subfalcate. Inner orbits very slightly divergent towards mandibular base. Posterior tibiae with six very feeble serrations along outer edges. Medioclypeal area convex, about one-half longer again than wide, ovate; the apical margin somewhat corrugated, truncate and protruding beyond anterior margins of lateroclypeal areas, with the lateral corners rounded. Interantennal carina obtuse, anterior two-thirds flatly rounded. Petiole one-fourth longer again than wide, shaped very much as in the female. Pygidium twice as long as wide, sides weakly convex, apically truncated and slightly wider apically than basally. Medio-apical margins of tergites incised as in female, but not as bold; the sternal incisions are also not as pronounced as in female, and are somewhat concave medially. Interocular distance on vertex about equals combined length of first six flagellar segments. Second segment of flagellum about one-third longer again than third segment, and ultimate segment apically rounded. Mesopleuron unarmed, slightly swollen.

Described from 11 ♂, South Africa, Transvaal. ♂ metalotype and 9 ♂ metapatypes are in my collection; 1 ♂ metapatype is in the Transvaal Museum.

MATERIAL EXAMINED. SOUTH AFRICA, *Transvaal*: ♀ holotype, Johannesburg (G. Kobrow) (Transvaal Museum); 3 ♀, Edenvale, Strubens Valley (Florida District), Nov.-Dec. (H. N. Empey) (Empey collection); ♂ metalotype, No. 8/1, Edenvale, 22.xi.1964 (H. N. Empey) (Empey collection); 1 ♂ metapatype, No. 8/2, Pretoria, 8.i.1959 (H. N. Empey); 1 ♂ metapatype, No. 8/3, Johannesburg (G. Kobrow)

(Transvaal Museum); ♂ metaparatypes, Nos. 8/4, 8/8-11, Strubens Valley (Florida District), 4.xii.1965 (No. 8/4), 31.xii.1965 (No. 8/8) and 14.xii.1968 (Nos. 8/9-11) ♂ metaparatypes, Nos. 8/5-7, Edenvale, 22.xi.1964. The Edenvale and Strubens Valley specimens were collected by me.

***Cerceris eulalia transkeica* subsp. nov., figs. 36-38; Map D**

FEMALE. 14 mm long. Coloured like the female of the nominal subspecies except that there are yellow lateral maculae on the propodeum, the distal one-third of the flagelli is slightly fuscous and the creamy-yellow parts are replaced by yellow in this subspecies.

The shape of the medioclypeal area is similar, except that the medioclypeal carina differs slightly: in *Cerceris eulalia eulalia* Brauns, 1926 the carina is fairly uniform in height over its entire length, whereas in *C. e. transkeica* this carina is similarly placed, but is higher in the middle and somewhat more acute, resembling the interantennal carina in its arcuating profile. There is a distinct difference in the puncturation of the fourth and fifth tergites: in the females of the nominal subspecies the puncturation of the fourth tergite is irregular, moderately large, shallow and somewhat reticulate in formation mediodorsally; in *transkeica* the puncturation of this tergite is fine, interspersed and quite shallow, the punctures less than one-half the size of those of the nominal subspecies; the puncturation of the fifth tergite of the nominal subspecies is fine, reasonably close and shallow, the fundamental being finely coriaceous, whereas in *transkeica* there are a few widely interspersed and very small punctures in the distal half only, thus exposing the entire fundamental surface of very fine coriaceousness. Another marked difference lies in the fifth tergite, for the entire surface is densely covered with golden pile, while this surface of the nominal subspecific females is practically glabrous. The golden pilosity is also evident on the fourth tergite, but not as dense as that of the fifth tergite; this pubescence on both these tergites is short and decumbent. The pygidial shapes of the two subspecies hardly differ, but their surface condition does show a slight difference: in the females of the nominal subspecies the pygidial surface is coriaceous, distally rugose, but in *transkeica* females this surface is finely coriaceous throughout. Otherwise structurally the same as nominal subspecific females.

MALE. 11 mm long. In coloration very much the same as the female, but decidedly different from nominal subspecific male, for the black on the tergites of *transkeica* male is replaced by ferruginous, similar to the female of *transkeica*. The yellow lateral maculae of the propodeum is also evident in these males, but is absent in both sexes of *C. e. eulalia* Brauns. The same differences occur in the tergal puncturation, especially that of the fifth tergite, where in the nominal subspecies the punctures are coarse, deep and very close, while in *transkeica* they are fine, very shallow and somewhat interspersed, the general fundamental surface being finely coriaceous. The difference in pubescence on the last two tergites occurs as well, but to a lesser degree. The punctures on the second and third tergite are much shallower than those on the corresponding tergites of the nominal subspecies, and generally the surface condition of the abdominal complex is much duller.

Described from 2 ♀ and 2 ♂, South Africa, Transkei. ♀ holotype, ♂ allotype and paratypes are in my collection.

MATERIAL EXAMINED. SOUTH AFRICA, *Transkei*: ♀ holotype, No. 87/1; ♂ allotype, No. 87/2; ♀ paratype, No. 87/3; ♂ paratype, No. 87/4. All type series were collected by me at Umtata, 3.i.1963.

Cerceris holconota holconota Cameron, 1905 **stat. nov.**, figs. 39–43; Map E

Cerceris holconota Cameron, 1905: 205 (♀); Brauns, 1926: 312 (♀, ♂); Arnold, 1931: 143, 148 (♀, ♂); 1942: Plate I (♂); Empey, 1969: 310 (♀, ♂).

Brauns redescribed the female and described the male metallotype of this nominal subspecies; below are my redescrptions of both sexes brought in line with modern terminology and based on the examination of the types and other homotypical specimens.

FEMALE. 11–12 mm long. Black, the following parts creamy-white: entire clypeus except black extreme apical margin of medioclypeal area; frons except antennal area up to level of antennal insertion; scapulae; tegulae; metanotum, often broken medially; a large mediobasal oval macula on second tergite; an apical band, strongly dilated laterally, on third tergite; a bold apical band, sometimes thinned out medially, on fifth tergite; large lateral maculae, sometimes joined thinly in middle, on third sternite; mandibles except distal one-third and extreme inner margins, these exceptions black; anterior and middle tibiae, and most of these tarsi; serrated exterior edges of posterior tibiae. Scapes and pedicels of antennae black, flagelli ferruginous, infuscated on upper surfaces. All tibiae, trochanters and distal halves of coxae ferruginous. Posterior tarsi dark ferruginous. Wings subhyaline, tinged with pale brown, forewings distally slightly darker; pterostigmae brown, veins dark brown. Pilosity silvery, short and sparse, longer and decumbent on frons and clypeus; still longer, erect and denser on sternites. Sometimes the oval mediobasal macula on the second tergite is altogether absent or very much reduced; the creamy-white tergal bands are also variable, but the frontal and clypeal markings seem reasonably constant.

Clypeus and frons coarsely, shallowly and longitudinally striato-rugose; this striato-rugosity extends on to the ocellar area and spreads laterally to the orbital margins; however, the rugosity here is finer and deeper and gradually changes into somewhat reticulate-punctuation on the occiput. Upper genae finely reticulate-punctate, the puncturation changing to striato-punctuation towards lower genae. Pronotum finely reticulate-punctate; scapulae shining, impunctate. Scutum finely, deeply but not closely punctured; puncturation of scutellum similar, but punctures placed further apart. Metanotum practically impunctate, shining. Saeptum gibbous, nitidulous, with deep crenulated mediolongitudinal groove and crenulate lateral sutural margins, the crenulations fine. Propodeum punctured as scutum. Mesopleuron finely and deeply reticulate-punctate. Superior metapleural areas finely and shallowly striate. Petiole and tergites punctured as propodeum, but a little coarser and deeper; puncturation of fifth tergite smaller and not so close. Pygidium finely coriaceous in basal half, coarser distally, with a few small, shallow and interspersed punctures near the base. Sternites with a few small and shallow punctures in lateral areas. Pygidium dull, the rest of the insect slightly shining.

Medioclypeal area about one-fourth longer again than wide, flatly convex over basal two-thirds and transversely flat over the remaining anterior portion; the protruding apical margin transverse, straight, with lateral angles moderately obtuse.

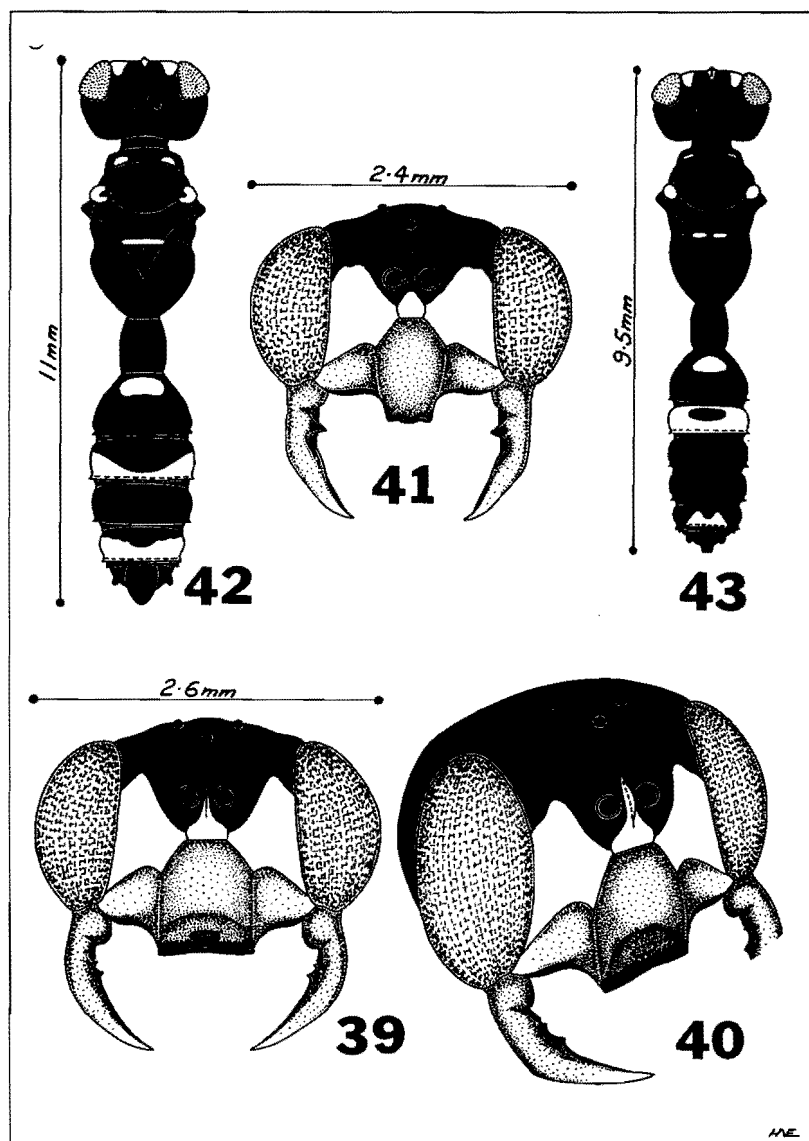
Mandibles subfalcate, often with a small obtuse-angled denticle on medio-inner margins. Scapulae prominently tuberculate. Scutum sharply and moderately depressed medio-longitudinally in anterior half. Hypoepimeral areas of mesopleuron crested, somewhat produced horizontally into straight-hooked lamellate processes, sharply pointed, the subtriangular dorsal surfaces sloping and plainly visible from above, similar to those of *Cerceris mutabilis* Arnold, 1931 (fig. 25). Mesopleuron ventrally unarmed. Second sternite with distinct mediobasal platform, contrary to Brauns' statement. Petiole subrectangular, one-fifth longer again than wide, sides weakly convex; second sternite a little longer than, and a little more than twice as wide as, petiole. Pygidium broadly ovate, three-fourths longer again than wide, narrower at the rounded apex. Posterior tibiae with six moderate spiniferous serrations along each outer edge. Fifth sternite with prominent lateral tubercles on apical margin. Interocular distance on vertex equal to a little more than the combined length of the first five flagellar segments. Second flagellar segment is a little longer than third segment, and is equal to length of ultimate segment, which is roundly pointed.

MALE. 9–11 mm long. Coloured as female, except that sometimes the apical band on the third tergite is considerably bolder and at times covers the entire segment, although it is often incomplete, leaving black median areas. The yellow on the sixth tergite is often reduced, but usually it almost covers the segment entirely. Otherwise like the female in coloration.

Punctuation of scutum, propodeum and tergites a little coarser than in the female. Petiole shaped as female, but proportionately longer; second tergite is as long as, and three-fourths wider again than, petiole. Hypoepimeral area of mesopleuron produced into crests similar to female. Second sternite with distinct mediobasal platform, again contrary to Brauns' statement. Pygidium barrel-shaped, one-third longer again than wide, sides slightly convex and apically truncate. Mandibles subfalcate, with an exceptionally large subtriangular tooth near the base on the inner margins, an important characteristic in the identification of the males of this species. Saeptum as female. Medioclypeal area convex, nearly one-half longer again than wide; apically protruding beyond lateroclypeal areas, the apical margin slightly convex, black, edentate, and laterally the corners obtusely angular. Posterior tibiae with six feeble serrations along their outer edges. Interocular distance on vertex as female. Sternites distinctly tumid laterally, more so on last two segments, those on sixth sternite being similar to those of female. Second flagellar segment slightly longer than third; ultimate segment as long as third, slightly curved and tapering to a rounded point.

MATERIAL EXAMINED. SOUTH AFRICA, *Cape Province*: ♀ holotype, Port Elizabeth (British Museum); ♂ metallotype, Port Elizabeth (Dr H. Brauns) (Transvaal Museum); numerous ♀ and ♂, Port Elizabeth, Jeffreys Bay, Sundays River Valley, Ceres, Mossel Bay, Willowmore, Murraysberg, Merweville, Grahamstown, Carlisle Bridge, Touws Rivier, Whittlesea, November–March (Albany Museum, British Museum, Durban Museum, South African Museum, Transvaal Museum, Empey collection).

NOTES. This subspecies exclusively inhabits the coastal and inland Karoo areas of the Cape Province, South Africa; it is fairly common in the areas where found. Its prey is now known, for I have collected females flying with Hymenoptera as prey (a male of an unknown species of *Braunsomeria* Turner, 1912 and a single male and another female, possibly of different species, of *Meria* Illiger, 1807—both genera of Tiphidae).



Figs 39–43. *Cerceris holconota holconota* Cameron. 39, 40 – ♀ head; 41 – ♂ head; 42 – ♀ body; 43 – ♂ body.

Cerceris holconota labiosa subsp. nov., figs. 44–45; Map E

FEMALE. 9–10 mm long. Differs from the nominal subspecies by its smaller size and different coloration, by the absence of the mediobasal creamy-white macula on the

second tergite and the maculae of the same colour on the tuberculose scapulae of the pronotum, by having the typical creamy-white metanotum broken medially or completely devoid of whitish colour, by having all the coxae, trochanters and femora blackish instead of ferruginous, by having the anterior surfaces of the antennal scapes yellow instead of ferruginous and by having the inner distal halves of the posterior tibiae blackish instead of pale ferruginous.

The medioclypeal area is much longer than that of the nominal subspecies, at least one-half longer again than wide as opposed to one-fourth. Also, the orbital divergence is slightly less. Lateral projections of hypoepimeral areas of mesopleuron are present, but to a lesser degree. The anterior depression of the scutum, the shapes of the petiole and pygidium, the general puncturation and surface condition of the saeptum and pygidium are similar to those of the nominal subspecies.

MALE. 9–10 mm long. Coloured as female, except that there is generally a fairly large pale yellow mediobasal macula present on the second tergite and a thin apical band of the same colour on the fifth tergite, the former similar to, and the latter absent on, the nominal subspecies. Other colour differences occur that may be useful in the separation of these males from nominal subspecific males, such as the colour differences of the femora and scapes, which are similar to the colour differences occurring between females of these two subspecies.

The length-to-width proportions of the medioclypeal areas of this and the nominal subspecies differ: in *C. h. holconota* the area is one-half longer again than wide; in *C. h. labiosa* the area is two-thirds longer again than wide; the obtuse median denticle sometimes discernable in *C. h. holconota* on the apical margin of the medioclypeal area is bold, and the lateral corners are acute, subrectangular, thus making the anterior portion of the area distinctly prominent. The scapular tubercles on the pronotal dorsum and the maculae thereon are much smaller than those of *C. h. holconota*. The genitalia hardly differ.

Described from 7 ♀ and 7 ♂, South Africa (Transvaal) and Rhodesia. ♀ holotype, ♂ allotype, ♀ and ♂ paratypes are in my collection; ♀ paratypes in the Transvaal Museum, Rhodesia Museum and Deutsches Entomologisches Institut, E. Germany.

MATERIAL EXAMINED. SOUTH AFRICA, *Transvaal*: ♀ holotype, No. 15/1, Ellisras, 12.xi.1967 (H. N. Empey); ♂ allotype, No. 15/2, Ellisras, 12.xi.1967 (H. N. Empey); 3 ♀ paratypes, Nos. 15/3, 15/10 and 15/12, Ellisras, Buffelspoort Dam (H. N. Empey); 6 ♂ paratypes, Nos. 15/5–8, 15/11 and 15/13, Ellisras, Heidelberg, Buffelspoort Dam, Pretoria (H. N. Empey); 1 ♀ paratype, No. 15/14, Moorddrift, Oct. 1909 (C. J. Swierstra) (Transvaal Museum); 1 ♀ paratype, No. 15/9, Montrose Falls, 7.i.1926 (W. Lingnau) (Deutsches Ent. Institut); RHODESIA: 1 ♀ paratype, No. 15/4, Bula-wayo, 17.ii.1940 (Rhodesia Museum).

Cerceris holconota oculata subsp. nov., fig. 46; Map E

FEMALE. 8 mm long. Much smaller than the other two subspecies described above. The unique specimen examined has all the structural characters of *Cerceris holconota labiosa* described above, including the longish medioclypeal area, and is identical in coloration, but differs in that the inner orbital margins are subparallel, not divergent

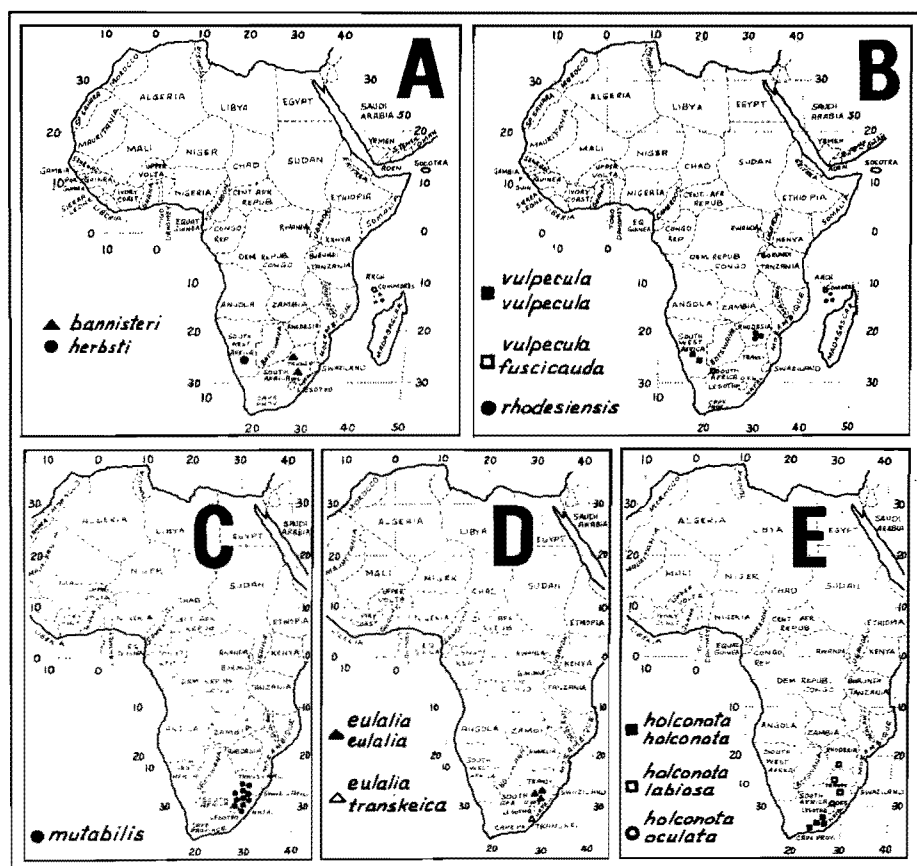


Fig. 47. Distribution maps. A – *Cerceris bannisteri* spec. nov., *Cerceris herbsti* spec. nov. B – *Cerceris vulpecula vulpecula* spec. et subsp. nov., *Cerceris vulpecula fuscicauda* subsp. nov., *Cerceris rhodesiensis* spec. nov. C – *Cerceris mutabilis* Arnold. D – *Cerceris eulalia eulalia* Brauns, stat. nov., *Cerceris eulalia transkeica* subsp. nov. E – *Cerceris holconota holconota* Cameron, stat. nov., *Cerceris holconota labiosa* subsp. nov., *Cerceris holconota oculata* subsp. nov.

towards the mandibular base as in the other two subspecies; the proportions of the length to the width of the medioclypeal area, petiole and pygidium are as in *C. h. labiosa*. The punctuation hardly differs, except that there are some small punctures on the distal surface of the saepium, near the lateral sutures, not present in the subspecies *labiosa* or *holconota*.

Infrasubspecific forms of a species do occur where there is very slight variation in the orbital divergence but, after careful consideration, I have concluded that, as this specimen shows such a striking difference in the orbital marginal shape, subspecific differentiation should apply in this case. However, it is a pity that there were not more

of these unusual specimens to study, for I am firmly convinced that this is not a case of dimorphism and very unlikely one of aberration.

Described from 1 ♀, South Africa, Orange Free State: Ficksburg, 17.i.1966 (H. N. Empey). The ♀ holotype, No. 16/1 is in my collection. The ♂ is unknown.

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